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Whey-reconstituted milo for finishing beef heifers

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Abstract

Three milo treatments were evaluated in finishing rations for heifers: dry-rolled, reconstituted with water, and reconstituted with whey. Reconstituting milo with water or whey did not increase weight gain or efficiency of heifers over that of heifers fed dry-rolled milo. The slowest and least efficient gains were produced by the water-reconstituted milo. Performances were similar for the dry-rolled and whey-reconstituted milo treatments.

Keywords

Cattlemen's Day, 1976; Report of progress (Kansas State University. Agricultural Experiment Station); 262; Beef; Milo; Heifers

Whey-reconstituted Milo for Finishing Beef Heifers

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Summary

Three milo treatments were evaluated in finishing rations for heifers: dry-rolled, reconstituted with water, and reconstituted with whey. Reconstituting milo with water or whey did not increase weight gain or efficiency of heifers over that of heifers fed dry-rolled milo. The slowest and least efficient gains were produced by the water-reconstituted milo. Performances were similar for the dry-rolled and whey-reconstituted milo treatments.

Experimental Procedures and Results

Twenty-four Hereford and Hereford x Simmental heifers were allotted by breed and weight to sheltered, individual feeding pens. Eight heifers were assigned to each of three milo treatments: (1) dry-rolled, (2) reconstituted with water and ensiled (water-reconstituted) and (3) reconstituted with partially dehydrated whey[1] and ensiled (whey-reconstituted).

Milo for all three treatments was from the same elevator (14% moisture). Milo in treatments 2 and 3 was raised to 23% moisture by adding water (147 lbs. of water/1000 lbs. of milo) or whey (253 lbs. of whey/1000 lbs. of milo). The whey contained 36% dry matter and 14% crude protein on a dry matter basis. Approximately 8% of the total ration dry matter was whey solids in the whey-reconstituted milo. Reconstituted milo was rolled and ensiled in 55 gallon, plastic-lined metal drums for at least 21-days before being fed.

All rations contained 80% of the appropriate milo, 15% chopped prairie hay and 5% supplement on a 100% dry matter basis and all were mixed and fed to appetite twice daily.

Individual weights were taken at the beginning and end of the trial after heifers were withheld from feed or water 15 hours. Final live weights were adjusted to a constant dressing percentage (61.2%). Carcass data were obtained at Wilson and Co., Kansas City, Mo.

Performances of the heifers for the 86-day trial are shown in Table Heifers fed dry-rolled milo gained faster ($P<.05$) than heifers fed water-reconstituted milo. Heifers receiving whey-reconstituted milo consumed

[1] Whey provided by Fairmont Foods, Inc., Council Grove, Kansas.

less feed but were as efficient as heifers receiving dry-rolled milo.

These results show that milo reconstituted with whey had a higher feeding value than milo reconstituted with water. However, this trial and previous trials at this station suggest that reconstituted milo that has been rolled and ensiled is not used more efficiently by finishing cattle than is dry-rolled milo.

Table 15.1 Heifer Performance (July 26 to October 20, 1975)

Item	Milo treatment		
	Dry-rolled	Water-reconstituted	Whey-reconstituted
No. of heifers	8	8	8
Initial wt., lbs.	715	722	720
Final wt., lbs.	932	918	925
Avg. daily gain, lbs.	2.52[a]	2.28[b]	2.38[ab]
Avg. daily feed, lbs.[1]	21.17[b]	21.30[b]	19.79[a]
Feed/lb. of gain, lbs.[1]	8.41[a]	9.45[b]	8.33[a]
Dressing percent	61.0	60.9	61.9

[1] 100% dry matter basis.

[ab] Means on the same line with different superscripts differ signicantly ($P < .05$).